AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A therapeutic delivery system for a host comprising:

a therapeutic agent; and

a sacromastigophoric organism containing said therapeutic agent and a gene encoding primate Hpr ~~a recombinant lytic factor~~; said gene further comprising an inducible promoter and encoding a lysosomal targeting sequence.

2. (Previously presented) The system of claim 1 wherein said therapeutic agent is selected from the group consisting of: a gene, an artificial chromosome, magnetic species, radioactive species, vitamins, nanocrystals, drugs, and prodrugs.

3. (Withdrawn) The system of claim 2 wherein said therapeutic agent is a gene selected from the group consisting of: a native organism gene, a host gene, a pathogen gene, a polymorph of a host gene, a polymorph of a pathogen gene, a virus, and a provirus.

4. (Previously presented) The system of claim 1 wherein the said organism is selected from the group consisting of Trypanosoma, Plasmodium, Amoeba, Giardia, Entamoeba, and Leishmania.

5. (Cancelled) The system of claim 1 wherein said lytic factor is selected from the group consisting of: Hpr, trialysin, Bad and Bax.

6. (Currently Amended) The system of claim [[5]] 4 wherein said trypanosome is Trypanosoma brucei.

7. (Original) The system of claim 1 wherein said recombinant lytic factor is upregulated by a promoter responsive to an induction species exogenous to both said organism and said host.

8. (Original) The system of claim 7 wherein said induction species is an antibiotic.

9. (Original) The system of claim 1 further comprising a gene encoding a small interfering RNA related to said therapeutic agent.

10. (Withdrawn) The system of claim 1 wherein said therapeutic agent is a diagnostic marker.

11. (Currently Amended) A therapeutic delivery system for a host comprising:

a trypanosome organism containing a gene encoding primate Hpr ~~a recombinant lytic factor~~ upregulated by a promoter responsive to an induction species exogenous to both said organism and said host; said gene further comprising a lysosomal targeting sequence.

12. (Withdrawn) The system of claim 11 further comprising an expression cassette having a translatable gene coding for a polypeptide.

13. (Original) The system of claim 11 wherein said trypanosome is Trypanosoma brucei.

14. (Withdrawn) The system of claim 12 wherein said gene codes green fluorescent protein.

15. (Withdrawn) The system of claim 12 wherein said expression cassette further comprises a plurality of translatable genes.

16. (Withdrawn) A process for producing a sacromastigophoric organism for delivery of a therapeutic agent comprising the steps of:

culturing sacromastigophoric organisms that have been transfected with an expression cassette induced by a first exogenous species, the cassette comprising:

a first construct having a first promoter controlling expression of a lytic protein.

17. (Withdrawn) The process of claim 16 wherein said organism is selected from the group consisting of:

Trypanosoma, Plasmodium, Amoeba, Giardia, Entamoeba, and Leishmania.

18. (Withdrawn) The process of claim 16 wherein said organism is a Trypanosoma.

19. (Withdrawn) The process of claim 18 wherein said organism is Trypanosoma brucei.

20. (Withdrawn) The process of claim 16 further comprising a second construct encoding genes comprising a second promoter, a polymerase termination sequence, and a preselected gene.

21. (Withdrawn) The process of claim 20 wherein said second construct further comprises a ribosome binding site and a poly A tail.

22. (Withdrawn) The process of claim 20 further comprising a gene conferring resistance to a second exogenous species.

23. (Withdrawn) The process of claim 16 wherein said first promoter is induced by said exogenous species.

24. (Withdrawn) The process of claim 16 wherein said first exogenous species is an antibiotic.

25. (Withdrawn) The process of claim 16 further comprising the step of packaging a non-nucleic acid therapeutic agent in said organism.

26. (Withdrawn) A process for producing a sacromastigophoric organism for delivery of a therapeutic agent comprising the steps of:

culturing trypanosome organisms that have been transfected with an expression cassette induced by a first exogenous species, the cassette comprising:

a first construct having a promoter induced by said first exogenous species controlling expression of haptoglobin related protein.

27. (Withdrawn) The process of claim 26 further comprising a second construct encoding genes comprising a second promoter, a polymerase termination sequence, and a preselected gene.

28. (Withdrawn) The process of claim 27 wherein said second construct further comprises a ribosome binding site and a poly A tail.

29. (Withdrawn) The process of claim 27 further comprising a gene conferring resistance to a second exogenous species.

30. (Withdrawn) The process of claim 26 wherein said first exogenous species is an antibiotic.

31. (Withdrawn) The process of claim 22 wherein said second exogenous species is an antibiotic effective against a wild trypanosome.

32. (Withdrawn) A method of treating or preventing a disease in a host comprising the steps of:

administering to said host a therapeutic amount of a sacromastigophoric organism that has been transfected with an expression cassette induced by an exogenous species signal, said cassette comprising a first construct having a promoter controlling expression of lytic protein;

allowing sufficient time for said organism to infect said host; and

administering said exogenous species to induce lysis of said organism.

33. (Withdrawn) The method of claim 32 wherein said organism is selected from the group consisting of:

Trypanosoma, Plasmodium, Amoeba, Giardia, Entamoeba, and Leishmania.

34. (Withdrawn) The method of claim 32 wherein said organism is Trypanosoma brucei.

35. (Withdrawn) The method of claim 32 wherein said exogenous species is an antibiotic.

36. (Withdrawn) The method of claim 32 further comprising the step of introducing into said organism a second construct encoding genes comprising:

a second promoter, a polymerase termination sequence, integrase, and a preselected gene.

37. (Withdrawn) The method of claim 36 wherein said preselected gene encodes a host gene, a pathogen gene, a polymorph of a host gene, a polymorph of a pathogen gene, a virus, and a provirus.

38. (Withdrawn) The method of claim 32 further comprising the step of packaging a non-nucleic acid therapeutic agent into said organism prior to administering said organism to said host.

39. (Withdrawn) The method of claim 38 wherein said non-nucleic acid therapeutic agent is selected from a group consisting of: magnetic species, radioactive species, vitamins, nanocrystals, drugs, and prodrugs.

40. (Withdrawn) The use of an intracellular parasite containing a recombinant exogenous species induced lytic factor to deliver a therapeutic agent to a host.

41. (Currently Amended) ~~An organism obtainable by the process as claimed in claim 16.~~ A sacromastigophoric organism for delivery of a therapeutic agent obtained by the process comprising:

culturing sacromastigophoric organisms that have been transfected with an expression vector containing an expression cassette induced by a first exogenous species, the cassette comprising:

a first construct having a first inducible promoter controlling expression of primate Hpr; said primate Hpr protein encoded by a gene present in said expression vector; said protein further comprising a lysosomal targeting sequence.

42. (Withdrawn) A commercial package comprising a therapeutic agent delivery system according to claim 1 as an active ingredient with instructions for the use thereof as a therapeutic.